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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,315	11/19/2003	Tsuyoshi Sano	U 014901-6	6492
140	7590	07/13/2007	EXAMINER	
LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			SHOSHO, CALLIE E	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/717,315	SANO ET AL.
	Examiner	Art Unit
	Callie E. Shosho	1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 13 April 2007 and 03 July 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-19 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
 Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-2, 12, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (U.S. 6,114,411).

The rejection is adequately set forth in paragraph 3 of the office action mailed 12/7/06 and is incorporated here by reference.

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. as applied to claims 1-2, 12, and 18-19 above, and further in view of EP 1219689.

The rejection is adequately set forth in paragraph 4 of the office action mailed 12/7/06 and is incorporated here by reference.

4. Claims 1-10, 12-13, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake (U.S. 6,670,409).

The rejection is adequately set forth in paragraph 5 of the office action mailed 12/7/06 and is incorporated here by reference.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake as applied to claims 1-10, 12-13, and 18-19 above, and further in view of EP 1219689.

The rejection is adequately set forth in paragraph 6 of the office action mailed 12/7/06 and is incorporated here by reference.

6. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yatake as applied to claims 1-10, 12-13, and 18-19 above, and further in view of GB 2370580.

The rejection is adequately set forth in paragraph 7 of the office action mailed 12/7/06 and is incorporated here by reference.

Response to Arguments

7. Applicants' arguments filed 4/13/07 and 1.132 declaration filed 7/3/07 have been fully considered but they are not persuasive.

Specifically, applicants' argue that there is no disclosure in Nakamura et al. of the solid content of the resin emulsion in connection with the content of the thermoplastic resin component.

However, attention is drawn to col.7, lines 7-10 of Nakamura et al. that discloses that the content of the thermoplastic resin of the resin emulsion is preferably 0.2-20% based on the total weight of the ink. It is noted that the solids content of resin emulsion of the present invention is also based on the amount of resin of the resin emulsion in the ink (see, for instance, page 26, lines 1-5 of the present specification). Thus, it is not clear why applicants argue that Nakamura et al. do not disclose solid content of the resin emulsion. Clarification is requested. It is noted that

col.6, lines 60-64 of Nakamura et al. do disclose the solid content of the resin emulsion based on the amount of water and resin in the resin emulsion itself, i.e. 60:400 parts water per 100 parts resin. However, in light of the disclosures in the present specification regarding solid content, it appears that the presently claimed solid content is based on the amount of resin of the emulsion in the ink not in the emulsion.

Applicants also argue that Nakamura et al. is not a relevant reference against the present claims given that there is nothing in Nakamura et al. that shows or suggests any weight ratio of resin emulsion to carbon black.

However, while it is agreed that there is no explicit disclosure in Nakamura et al. of ratio of solid content of resin emulsion to content of carbon black such ratio is implicitly disclosed in Nakamura et al. given that Nakamura et al. disclose the solid content of the resin emulsion and the amount of the carbon black from which ratio is calculated.

Applicants argue that the examiner is reading into the reference a range of ratios that is not there and speculating what the outer limits of a range could be based upon the described ranges of the individual components.

However, given that the solid content of the resin emulsion and the amount of carbon black disclosed by Nakamura et al. includes not only the end points of the range but also all amounts in between the end points, it is clear that when calculating ratio of solid content of the resin emulsion to carbon black such ratio would necessarily include not only the ratio of the end points but all ratios in between the end points. Further, examiner is not speculating what the ratio of solid content of the resin emulsion to carbon black is. Rather, examiner is calculating the ratio

based on explicitly disclosed amounts in Nakamura et al. That is, Nakamura et al. disclose the use of 0.1-5% carbon black and 0.2-20% resin as part of the resin emulsion. Thus, if ink of Nakamura et al. comprises 20% resin and 1% carbon black, it is clear that such ink would necessarily possesses ratio of resin to carbon black of 20.

While it is agreed that there are no examples in Nakamura et al. of ink comprising ratio of solid content of resin emulsion to carbon black as presently claimed, however, "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others," *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). A fair reading of the reference as a whole clearly disclose amount of resin as part of the resin emulsion and amount of carbon black from which it is calculated that the ratio of resin to carbon black clearly overlaps that presently claimed.

Applicants argue that Yatake is silent with respect to the solid content of the resin emulsion in connection with the content of the fine polymer particles.

However, attention is drawn to col.4, lines 15-19 of Yatake that discloses that the ink comprises 0.5-10% fine polymer particle and thus, it is clear that the polymer of the polymer emulsion is present in amount of 0.5-10% of the ink. It is noted that the solids content of resin emulsion of the present invention is also based on the amount of resin of the resin emulsion in the ink (see, for instance, page 26, lines 1-5 of the present specification). Thus, it is not clear why applicants argue Yatake does not disclose solid content of the resin emulsion. Clarification is requested.

Applicants argue that there are no examples in Yatake that utilize ratio of solid content of resin emulsion to carbon black as presently claimed.

While it is agreed that there are no examples in Yatake of ink comprising ratio of solid content of resin emulsion to carbon black as presently claimed, however, "applicant must look to the whole reference for what it teaches. Applicant cannot merely rely on the examples and argue that the reference did not teach others," *In re Courtright*, 377 F.2d 647, 153 USPQ 735,739 (CCPA 1967). A fair reading of the reference as a whole clearly disclose use of amount of polymer as part of the polymer emulsion and amount of carbon black from which it is calculated that the ratio of polymer to carbon black clearly overlaps that presently claimed.

Applicants argue that the ratio of solid content of the resin emulsion to the content of the carbon black is a result effective variable such that the references cannot set forth a *prima facie* case of obviousness for the invention as claimed.

It is agreed that neither Nakamura et al. or Yatake explicitly disclose ratio of solid content of fine particle emulsion to content of carbon black as presently claimed.

However, it is noted that Nakamura et al. disclose the use of 0.1-10% or 0.5-5% pigment and disclose that such amount is used to secure sufficient print density and higher jetting stability (col.3, line 66-col.4, line 7). Nakamura et al. also disclose the use of 0.2-20% resin (as part of the resin emulsion) and disclose that such amount is used to secure an even better print density and to control the viscosity of the ink to proper value (col.7, lines 7-16). Thus, it is clear that Nakamura et al. recognizes each of the pigment and resin as a result effective variable and thus,

it is clear that the ratio of resin, i.e. solid content of fine particle emulsion, to content of carbon black, is also a result effective variable.

Similarly, Yatake discloses the use of 0.01-10% pigment and disclose that if a lower amount is used, the density of the printed image is inadequate and that if a higher amount is used, ink ceases to be light in color (col.7, lines 53-65). Yatake also disclose the use of 0.5-10% resin and disclose that if a lower amount is used, little effectiveness in improvement of smear fastness and that if a higher amount is used, no improvement in smear resistance (col.4, lines 15-29 and col.4, line 64-col.65, line 3). Thus, it is clear that Yatake recognizes each of the pigment and resin as a result effective variable and thus, it is clear that the ratio of resin, i.e. solid content of fine particle emulsion, to content of carbon black, is also a result effective variable.

In light of the above, it therefore would have been obvious to one of ordinary skill in the art to choose amount of resin and carbon black, including amounts such that the solid content of fine particle emulsion is 20 times or more the content of the carbon black as presently claimed, in either Nakamura et al. or Yatake, and thereby arrive at the claimed invention.

Applicants argue that even though each of Nakamura et al. and Yatake teach the result effective nature of the variables, i.e. solid content of resin and amount of carbon black, individually, it does not follow that the ratio of the variables is result effective.

However, given that Nakamura et al. and Yatake each recognize that the content of the carbon black and the solid content of the resin emulsion are result effective variables, it would appear to follow that ratio of such result effective variables would necessarily have to be a result effective variable. That is, varying the amount of each of the solid content of the resin emulsion

and the carbon black to achieve a recognized result would necessarily also affect the ratio of solid content of the resin to the carbon black which would also achieve a recognized result.

Applicants point to comparative data set forth in the 1.132 declaration filed 7/3/07.

The data compares ink within the scope of the claims, i.e. comprising solid content of fine particle emulsion that is 20 times or more the content of the carbon black (examples 1-4), with ink outside the scope of the present claims, i.e. comprising solid content of fine particle emulsion that is less than 20 times the content of the carbon black (comparative examples 1-5). It is shown that the inks of the present invention are superior given that the inks do not exhibit golden gloss while the comparative inks do exhibit golden gloss.

However, it is the examiner's position that the data is not persuasive for the following reasons.

The only data that establishes proper side-by-side comparison between ink within the scope of the present claims and ink outside the scope of the present claims is the comparison between example 1, i.e. solid content of resin emulsion is approximately 25 times the content of the solid black, and comparative example 1, solid content of resin emulsion is 15 times the content of the solid black.

There is no proper side-by-side comparison between ink of example 2 and inks of the comparative examples given that the ink of example 2 comprises Pigment Blue 60 not contained in any of comparative examples 1-5. Further, the ink of example 2 comprises lower amount of glycerol than the inks of the comparative examples, does not comprises triethanolamine as do the inks of the comparative examples, and discloses the use of different types of acrylic emulsion

than inks of comparative example 2-5. Similarly, the ink of example 3 requires the use of triethylene glycol mono-butyl ether and Surfynol 465 not required in any of the comparative examples and discloses the use of different types of acrylic emulsion than the inks of the comparative examples while the ink of example 4 utilizes different amounts of HS 500, triethanolamine, and glycerol than the inks of the comparative examples and discloses the use of different types of acrylic emulsion than the inks of the comparative examples. Thus, it is not clear of the differences between examples 2-4 and comparative examples 1-5 are due to the ratio of the solid content of the resin emulsion to the carbon black or to the use of different types and/or amounts of ingredients in the ink.

Applicants argue that although the inventive inks and the comparative inks utilize different types of resin emulsion, the comparative examples are intended to show the importance of the total amount of the solid content of the resin emulsion relative to the content of the carbon black irrespective of the kind of fine particle emulsion.

However, there is no evidence that using different types of resin emulsion does not affect the properties of the ink including golden gloss.

Further, the data is not commensurate in scope with the scope of the present claims given that there is only data for one ratio of solid content of the resin emulsion to content of carbon black. Applicants have not established criticality at the upper end of the presently claimed ratio. As set forth in MPEP 716.02(d), whether unexpected results are the result of unexpectedly improved results or a property not taught by the prior art, "objective evidence of nonobviousness must be commensurate in scope with the claims which the evidence is offered to support". In other words, the showing of unexpected results must be reviewed to see if the results occurred

over the entire claimed range, *In re Clemens*, 622 F.2d 1029, 1036, 206 USPQ 289, 296 (CCPA 1980). Applicants have not provided data to show that the unexpected results do in fact occur over the entire claimed range of ratio of solid content of the resin emulsion to that of carbon black.

Further, the data is not commensurate in scope with the scope of the prior art. Applicants argue that the comparative data set forth in the 1.132 declaration is closer to the present invention than Nakamura et al. or Yatake.

However, given that Nakamura et al. disclose solid content of resin emulsion that is 0.02 to 200 times the content of the carbon black and Yatake discloses solid content of resin emulsion that is 0.05-1000 times the content of the carbon black wherein upper limit of ratio of Nakamura et al. and Yatake falls within the scope of the present claims, it is not clear how the comparative data is closer than that of Nakamura et al. or Yatake.

Given that the comparative data only provides data at one ratio of solid content of the resin emulsion to content of carbon black and given that Nakamura et al. and Yatake each disclose ratio of solid content of the resin emulsion to content of carbon black that overlaps that presently claimed including explicitly reciting point that falls within the scope of the present claims, it is the examiner's position that the data is not commensurate in scope with the scope of the "closest" prior art Nakamura et al. and Yatake and that the disclosures of Nakamura et al. and Yatake are closer to the presently claimed invention than the comparative data.

In light of the above, it is the examiner's position that Nakamura et al. and Yatake remain relevant references against the present claims.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
7/7/08